

REMARKS

Claims 1-20 are pending in this Application. By this Response, Applicants amended claims 1-4, 10, 12-14 and 17. Accordingly, claims 1-20 remain at issue following this Reply.

In the Office Action the Examiner rejected claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,902,233 issued to Farley et al. ("Farley"). Applicants respectfully traverse this rejection.

In view of the Amendments and Remarks herein, Applicants believe the present application is in condition for allowance and respectfully requests notice of same.

Amendment to the Specification

Applicants have amended paragraph 20 of the specification to clarify the tilting action of the retractor blade to be consistent with the remainder of the specification and the figures. No new matter has been included.

Rejection Under 35 U.S.C. §103(a)

The Examiner has rejected claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over Farley. The Examiner asserted that Farley discloses "an assembly comprising: a support, a clamp, a retractor shaft (2), a connector (3) a retractor blade (9), and the blade connected to the connector by a stem (31), the stem retained to the shaft by the connector and angularly positionable relative to the shaft axis up and down relative to the shaft axis about a tilting axis (see Figs 5A, 5B, 5C), the connector allows pivoting of the stem side to side about a rotation axis relative to the shaft axis about a rotation axis (see Fig. 7)." Applicants respectfully traverse this rejection.

To understand a fundamental difference between the Applicants' invention and the disclosure of Farley, one must first understand the possible degrees of freedom of a retractor blade.

With respect to the retractor blade of Farley, Farley discloses two degrees of freedom:

(1) the first degree of freedom is the movement of the blade back and forth in line with the axis of the mounting arm (see FIGS. 4A, 4B, 5A-5C and 6) such that the "blade 9 and associated head member 7 are angularly adjustable about axle 10 with respect to body segment 3" (Col. 4, lines 40-43); and,

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(2) the second degree of freedom as shown in FIG. 7 is the rotation of the blade about its nipple 31 within the nipple receptacle 33 to allow the blade 9 to swivel about swivel point 32 in a direction indicated generally at 30 (Col. 6, lines 54-63).

The entire object of the invention and disclosure of Farley is centered on the angular adjustability of the blade about axle 10 (identified above as the first degree of freedom).

Conversely, Applicants' invention as claimed incorporates several structural components that are not disclosed or suggested in Farley. First, Applicants' disclose and claim a third degree of freedom of the retractor blade that is neither disclosed nor suggested in Farley. The third degree of freedom claimed by Applicants involves the back and forth tilting of the connector and retractor blade about the shaft axis 17, such that the retractor blade moves angularly up and down relative to the tilting axis 70 (shown in FIG. 1 of Applicants' application), which is perpendicular to and distinct from the axis 10 utilized in the first degree of freedom identified above in Farley. Additionally, Applicants' application discloses and claims stops associated with its retractor blade assembly to limit movement of its retractor blade.

Turning now to the claims, independent claim 1 recites: "a retractor blade connected to the connector, said retractor blade being angularly positionable about the shaft axis up and down relative to a tilting axis." As explained above, there is no movement of the retractor blade of Farley about the mounting shaft axis as required in Applicants' claim 1. Instead, all the movements of the retractor blades in Farley are about separate shafts perpendicular to the mounting shaft. As explained above, referring to FIGS. 6 and 7 of Farley, the only movement of the retractor blade on Farley is either (1) via rotation of the nipple 31 in nipple receptacle 33 as shown in FIG. 7 – such axis of rotation being perpendicular to the axis of the mounting shaft 2 (described above as the second degree of freedom), or (2) via rotation of the blade about axle 10 – such axis of rotation also being perpendicular to the axis of the mounting shaft 2 (described above as the first degree of freedom). Further, there is no disclosure or suggestion in Farley about angularly positioning the retractor blade relative to a tilt axis. Accordingly, Applicants respectfully submit that independent claim 1, and all claims dependent thereon, are patentable over Farley.

In addition to certain limitations found in independent claim 1 that are not disclosed or suggested in Farley, there are additional limitations in dependent claims 2-9 which are not disclosed or suggested in Farley, thereby providing additional points of patentability. For example, since Farley does not disclose or suggest a tilting axis as defined by the Applicants and explained above, it is clear that Farley also does not disclose or suggest that the tilting axis is spaced from and perpendicular to the rotation axis as required in claim 3, and also that Farley does not have stops in its connector to limit the angular movement of the retractor blade relative to any tilting axis as required in claim 4. Moreover, the structure recited in claims 7-9 is not disclosed or suggested in Farley. These distinctions provide separate and additional grounds for patentability of the claims.

The next independent claim, claim 10, recites: a “retractor blade being selectively angularly positionable about a rotation axis relative to the shaft axis, and said angular position of the retractor blade being limited by stops associated with the connector.” Further, claim 14 recites shaft rotates perpendicular to the shaft axis. To assist in understanding this claim it is helpful to refer to an example in Applicants’ specification. Referring to FIGS. 1, 3 and 4 of Applicants’ specification, in one embodiment, to rotate or pivot the retractor blade perpendicular to the shaft axis, Applicants’ invention utilizes a pivot flange 24 that is positioned in the flange clevis 20 and which rotates about a shaft 26 extending through both the flange clevis and the pivot flange 24. The pivot flange 24 further has stops 60 and 62 which engage an interior of the slot 50 in the flange clevis 20 to prevent movement of the retractor blade past a preset angular position.

Unlike the recitation of claims 10 and 14, to rotate the retractor blade perpendicular to the shaft axis the disclosure of Farley discloses that the retractor blade is rotated about its nipple 31 which is positioned in the nipple receptacle 33 as shown in FIG. 7. Thus, the retractor blade in Farley can freely rotate a full 360° in the nipple receptacle 33, and there is no suggestion or teaching otherwise in Farley (i.e., Farley does not disclose stops preventing the rotation of the retractor blade). Accordingly, Applicants respectfully submit that independent claim 10, and all claims dependent thereon, are patentable over Farley.

In addition to certain limitations found in independent claim 10 and dependent claim 14 that are not disclosed or suggested in Farley, as discussed above, there are additional limitations in dependent claims 11-13 and 15-16 that are not disclosed or suggested in Farley, thereby providing additional points of patentability. For example, as explained above Farley does not disclose or suggest a tilting axis as defined by the Applicants and as required by claim 13. Similarly, the structure recited in claims 11 and 12 (i.e., a slot in the connector limiting the angle of the retractor blade relative to the shaft axis, a flange clevis connected to the shaft, a pivot flange angularly positionable with the slot, etc.) is not disclosed or suggested in Farley. These distinctions provide separate and additional grounds for patentability of the claims.

Finally, the last independent claim 17 recites: “a retractor blade connected to a hub, said hub retained in said slot of the connector, said slot being in a plane parallel to a plane of the shaft axis, and said hub angularly positionable about a rotation axis within the slot relative to the shaft axis.” The structure recited in independent claim 17 is not even remotely disclosed in Farley. In Farley, as explained above, the retractor blade 2 has a nipple 31 which rotatedly engages a nipple receptacle 33 in the head member 7. The head member 7 is then connected via a shaft 10 to the body segment 3. None of this disclosure of Farley suggests or contemplates a slot in a connector, wherein the slot is in a plate parallel to the shaft axis, and a hub retained in the slot and angularly positionable about the rotation axis with the slot. Accordingly, Applicants respectfully submit that claim 17, and all claims dependent thereon, are patentable over Farley.

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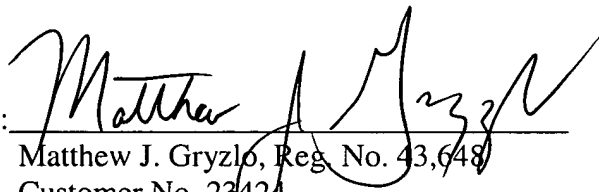
CONCLUSION

In light of the foregoing reasons, Applicants respectfully request reconsideration and allowance of claims 1-20. The Commissioner is authorized to charge any additional fees or credit any overpayments associated with this Amendment to Deposit Account 23-0280. Applicants further invite the Examiner to contact the undersigned representative at the telephone number below to discuss any matters pertaining to the present Application.

Respectfully submitted,

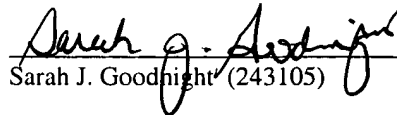
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to: MAIL STOP AMENDMENT, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450, on April 13, 2006.


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